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NASA TECH BRIEF



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Shock-Absorbent Mountings for Bearings

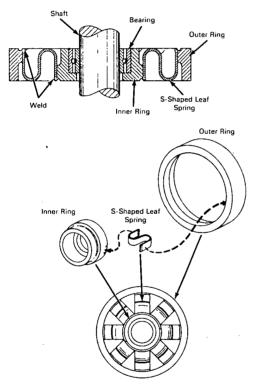


Fig. 1. Views of One Version of the Mounting

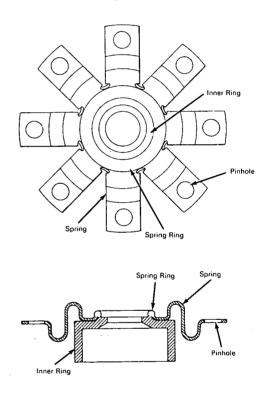


Fig. 2. Views of Another Version

The problem:

Design of a spring mounting to protect a bearing and its shaft from shock.

The solution:

A mounting for the bearing that consists of an inner and an outer concentric ring separated by a number of separate S-shaped rectangular leaf springs. Each end of each spring is secured to the inner or outer ring, and the bearing is carried in the inner

ring. Each spring can flex independently. The mounting can absorb shocks equivalent to 10,000g.

How it's done:

In one version (Fig. 1) the ends of the springs are welded to the inner and outer rings; annular grooves cut in the faces of the rings facilitate welding.

In another version (Fig. 2) the inner ends of the springs are integral with a spring ring; they are either made integral with the spring ring or welded to it.

(continued overleaf)

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The spring ring is then fixed to and concentrically with the face of the inner ring by swaging or brazing. Near the outer end of each spring is a hole through which a pin (or a cap screw) fits for attachment to the host mechanism.

Other versions are possible. Such mountings have been used in rocket-borne tape recorders; they may interest manufacturers and users of bearings, especially for instruments.

Note:

No further documentation is available. Inquiries may be directed to:

Technology Utilization Office NASA Pasadena Office 4800 Oak Grove Drive Pasadena, California 91103 Reference: B69-10331

Patent status:

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Source: Albert Topits, Jr., of Jet Propulsion Laboratory under contract to NASA Pasadena Office (NPO-10626)